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NOTICES OF SOME UNDESCRIBED INFUSORIA,
FROM THE INFUSORIAL FAUNA OF
LOUISIANA.

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WITH PLATE VI.

(Being a Continuation from Page 68 of the Transactions for 1897, and
from Page 56 of the Transactions for 1898.)

FAMILY PLEUROMONADIDAE Kent.

GENUS OIKOMONAS Kent.

Oikomonas viridis sp. n. Plate VI, Fig. 1.

Body pyriform, sub-cylindrical, soft and variable in shape; normally less than twice as long as wide; flagellum single, as long as the body and originating in the center of the anterior border; endoplasm enclosing two lateral dark green pigment-bands, which extend for nearly the whole length of the normal body; contractile vesicle distinct and placed to one side of the flagellum, above the pigment-band and in contact with the periphery, the contour of which it distinctly disturbs at each contraction; dark pigment-spot placed above the pigment-band, opposite the contractile vesicle; nucleus roundish and sub-central; food incepted at all parts of the periphery; reproduction by longitudinal fission.

Length 12.5μ ; habitat, pond water.

This species was found frequently and at times in great abundance in pond water with several species of filamentous algae. The pigment-bands are distinctly sausage-shaped, and, in color, resemble the endochrome of the alga, *Oedogonium*.

It attaches itself to debris or the slide by a caudal-like extension of its substance, which, at times, exceeds the body in length, and when the zooid breaks loose from its attachment, this extension remains for some time, but is always retracted before again attaching itself. It is a very active feeder, and as it always attaches itself before feeding, it generally remains but a short time in the free-swimming condition when food is abundant. The food is of all kinds, and, at times, much longer than its body. The expansion and contraction of the contractile vesicle is quite rapid and cannot escape notice.

This form may possibly be the *Monas viridis* of Dujardin, which seems to have failed of recognition by all subsequent observers excepting De Fromentel. *M. viridis* is the same size. It bears a superficial resemblance to the *Cryptoglana pigra* Ehr., but differs in being soft and plastic, and in the non-possession of an oral aperture. It also bears some resemblance to *Chrysomonas flavicans* Ehr. and to *Chrysomonas ochracea* Ehr., but these forms have a distinct oral aperture and the pigment-bands are permanently yellow.

In size, shape (somewhat), plasticity and manner of taking food, it bears a very strong resemblance to *Chromulina ovalis* Klebs, but differs essentially in the color of the pigment-band, which in *C. ovalis* is yellow or golden, and in the habit of attaching itself preparatory to feeding.

In company with this form were found on several occasions a number of triciliate infusorians (Fig. 3), which the writer is inclined to identify as the *Callodictyon triciliatum* Carter; an infusorian which seems to have evaded all students of these lowly forms since Carter found it at Bombay in 1865. The forms noticed agreed in the transparency and vacuolar construction of the endoplasm, and in the position of the nucleus, which reagents showed to be globular. The anterior depression was absent; the three flagella were equal in size, but nearly as long as the body; the occasional posterior bifurcation was never present in the specimens seen. The body was soft, slowly changeable in shape, but never to any great extent, and food

was taken in at any part of its periphery. In size it differed somewhat, being 35.7μ , as against 32.9μ as recorded by Carter. Minus its flagella and movement this form resembles an elongate rayless *Actinophrys*.

FAMILY HETEROMITIDAE Kent.

GENUS HETEROMITA Dujardin.

Heteromita obovata sp. n. Plate VI, Fig. 2.

Body obovate, subcylindrical, plastic and slightly changeable in shape; less than three times longer than wide; the anterior flagellum as long as the body and the posterior one nearly twice as long; contractile vesicle large, active and placed in the posterior third of the body, near the sinistral border; nucleus round, distinct and in the anterior fourth of the body; endoplasm bluish; movements slow and equable.

Length from 16.66μ to 27.8μ ; habitat, ditch water.

This form can be easily distinguished from all others of this genus so far described by the position of the contractile vesicle and nucleus.

In shape, relative length of the flagella, position of the contractile vesicle and of the nucleus, this species resembles the free-swimming phase of *Dimorpha radiata* Klebs, but numerous and constant observations have demonstrated that it does not change its character. It is a very active feeder and incepts food at any part of its body. It does this in a peculiar manner. The food is found and pressed to the body by one or both flagella, the body then curves about the food and seems to press it in.

At times the narrow posterior end of the body will throw out one or several filaments of its own substance, by which it fastens itself to the slide and then both flagella are thrown forward to seek food. Occasionally it becomes so filled with food that it loses all semblance to its normal shape, and may then be very nodular. In this respect it resembles *Heteromita globosa* Stein.

The form was found in great abundance in ditch-water, and seemed to be very persistent, being taken a number of times during several months from the same spot.

FAMILY HALTERIIDAE Clap. & Lach.

GENUS HALTERIA Dujardin.

Halteria activa sp. n. Plate VI, Fig. 4.

Body subovate, cylindrical, soft and plastic, but persistent in shape; less than twice as long as wide; a spiral wreath of long cilia originating near the anterior border and continued around the body, making a circuit and a half, and ending at the oral aperture, which is near the body-center; oral aperture continued for a short distance as a membranous pharynx; two springing-setae dependent from near the oral aperture, and reaching for some distance below the posterior extremity; contractile vesicle large and latero-central; nucleus round and sub-central; reproduction by transverse fission; movements as with *Halteria grandinella* Müll.

Length 50 μ ; habitat, brackish water of Lake Pontchartrain.

In consequence of the powerful ciliary wreath, the rotary and forward movements of this species are exceedingly rapid, surpassing those of *H. grandinella*. The springing movement is correspondingly weak, owing to the meager supply of setae. Viewed from the dorsum the springing-setae appear to be caudal appendages, and only by the exercise of much patience can their true nature be demonstrated.

In company with this form were a number of fairly large-sized *Pleuromonas jaculans* Perty, and taking advantage of the favorable conditions, they were given some attention. The apical flagellum was easily demonstrated with an $\frac{1}{8}$ objective, and was never found to be longer than the body of the zooid, and invariably hanging down the concave side. A number were studied with the special object of determining the manner of taking food, and as a result, the writer feels obliged to conclude that this ubiquitous form has a true oral aperture just above the origin of the flagellum by which it attaches itself.

FAMILY OXYTRICHIDAE Ehr.

GENUS EPICLINTES Stein.

Epiclintes pluvialis sp. n. Plate VI, Fig. 5.

Body elongate, very elastic, and from five to seven times longer than wide; divided into three distinct regions—a widest central portion which is convex on the dorsal and flat on the ventral surface, a narrower neck-like portion which is very much compressed and rounded at the free anterior border (the central portion usually about twice the length of the anterior portion), and an elongate, attenuate tail-like portion which is sub-cylindrical and very variable in length; peristome-field elongate-obovate, occupying about one-half the width of the neck-like portion, and extending from near the anterior border to a short distance within the central portion, and there meeting the oral aperture, which is continued a short distance as a distinct membranous pharynx; the peristome-field has a continuous outer marginal fringe of powerful cilia, each of which is longer than one-half the width of the neck-like portion; the inferior or narrower end of this field has for some distance up an oppositely reflexed marginal series of fine pre-oral cilia; the marginal series of body cilia are large, those on the caudal extremity being somewhat larger, the ventral series not numerous, and apparently without definite arrangement; the dorsal surface covered with fairly long hispid setae; contractile vesicle dorsally placed, a little below the oral aperture and near the sinistral border; anal aperture located at the lower ventral extremity of the central portion; movements eccentric; reproduction by transverse fission.

Length 357 μ ; habitat, pond water.

This large and unique form of the Hypotricha presents a marked departure from all other members of the order in having a symmetrical peristome-field, the same region being more or less arcuate in all other forms described so far. It also bears the distinction of being the first one of the genus *Epiclintes* with a fresh-water habitat. They were taken in large quantities from a small pond at Slidell, Louisiana, with a species of

Myriophyllum, and in company with what appears to be a three-horned variety of *Ceratium hirundinella* Bergh. (Fig. 6.) It is a ravenous feeder, and is usually filled with food, in fact the forms observed were so congested that it was impossible, after many efforts, to differentiate the nucleus. In one instance one of the zooids was seen to swallow eight specimens of *Trachelomonas armata* Ehr., which ought to be classed as quite a feat, when the formidable array of spines with which *T. armata* is covered, is considered. It has the peculiar habit of resting alongside of some debris or algal filament, and collecting around its body a quantity of debris, from which it protrudes most of its body when feeding, and into which it withdraws itself when disturbed. This habit is thus exactly similar to that of *Stichotricha aculeata* Wrz.

The *Ceratium* mentioned above is brownish-yellow and measures, full length, 166μ .

FAMILY URCEOLARIIDAE Stein.

GENUS TRICHODINA Ehr.

Trichodina viridis sp. n. Plate VI, Fig. 7.

This ciliate resembles the *Trichodina pediculus* Ehr. in every way excepting that its endoplasm contains numerous small green bodies, not unlike, in shape and general appearance, the chlorophyll of plants. These small green bodies are very much like those contained in the endoplasm of *Paramecium bursaria* Ehr. They are constant, in more or less abundance, and give to the animal a bright green color. The shape is much more compressed than any *T. pediculus* seen by the writer, and resembles a checker used in the game of draughts.

Size varies (diameter) from 76.75μ to 91μ .

Ectoparasitic on the fresh-water snail *Physa integra* Halde-
man.

An examination of more than one hundred specimens of the host failed to disclose a single instance of its absence from their bodies.

GENUS CONDYLOSTOMA.

Condylostoma culex Smith.

This form was described in these Transactions for 1897, page 63. A further examination has shown that it is only occasionally found with the eggs of *Culex mosquito*, and that its natural habitat is the egg-sac of the pond-snail *Physa integra* Halde-
man. A recent examination of a large number of these egg-sacs showed this form present in every instance, and always in large numbers.

PLATE VI.

- Fig. 1. *Oikomonas viridis*.
Fig. 2. *Heteromita obovata*.
Fig. 3. *Callodictyon triciliatum*.
Fig. 4. *Halteria activa*.
Fig. 5. *Epiclintes pluvialis*.
Fig. 6. *Ceratium hirundinella*—variety.
Fig. 7. *Trichodina viridis*.

Fig. 8. *Notogonia Ehrenbergii*. (See page 95).

PLATE VI

